

Claim 1 requires that "the electron injection restraining layer and the light emitting layer are constituted by materials meeting the following formula $|Ea^{(A)}| \geq |Ea^{(EBL)}|$ and $|Ea^{(EM)}| \geq |Ea^{(EBL)}|$ wherein $Ea^{(A)}$ represents the electron affinity of the acceptor, $Ea^{(EBL)}$ represents the electron affinity of a material of the electron injection restraining layer, and $Ea^{(EM)}$ represents the electron affinity of a material of the light emitting layer. In other words, claim 1 requires that the electron affinity of both the acceptor (which is in the hole transporting layer) and the light emitting layer be greater than or equal to the electron affinity of a material of the electron injection restraining layer. Since the electron or hole injection restraining layer can restrain electrons or holes from being injected into the light emitting layer, the layer can suppress leakage current in certain example embodiments. Consequently, in certain example embodiments, it is possible to realize an organic EL element having a low resistance, a high luminous efficiency, and excellent rectifying characteristics (e.g., pg. 8, line 21 through pg. 15, line 10 of the instant specification). The cited art fails to disclose or suggest the important equation aspect of claim 1, either taken alone or in combination.

The Office Action contends that Utsugi "intrinsically" or inherently discloses the aforesaid equation recited in claim 1. The Office Action's contention in this respect is clearly wrong. There is no disclosure or suggestion in Utsugi that the electron affinity of both the acceptor and the light emitting layer is/are greater than the electron affinity of a material of the barrier layer (alleged restraining layer). In particular, while Utsugi describes that a potential barrier layer is placed between a hole transfer layer and a light emitting layer (see Figs. 1-2 of Utsugi), Utsugi's hole transfer layer does not include an

acceptor. There is no disclosure or suggestion that Utsugi's hole transfer layer includes an acceptor. In contrast, the aforesaid equation recited in claim 1 is based on the claim's requirement that the hole transfer layer includes an acceptor. Since Utsugi's hole transfer layer does not include an acceptor, it would be impossible for Utsugi to meet the aforesaid equation recited in claim 1. The Office Action's allegation that Utsugi inherently discloses this is without support, and clearly wrong.

Citation to Takashi cannot overcome the fundamental flaws of Utsugi discussed above. Takashi, for example, has no description of any electron or hole injection restraining layer. Thus, Takashi cannot possibly disclose or suggest the equation recited in claim 1. Since both Utsugi and Takashi fail to disclose or suggest the equation recited in claim 1, even if Utsugi and Takashi were combined as alleged in the Office Action (which applicant believes would be incorrect in any event), the invention of claim 1 still would not be met.

Claims 12 and 14 stand rejected under 35 U.S.C. Section 102(e) as being allegedly anticipated by Kido. This Section 102(e) rejection is respectfully traversed for at least the following reasons.

Claim 12 requires an "organic electroluminescent element comprising: a substrate supporting, proceeding from the substrate outwardly, an anode; a hole transporting layer; an electron injection restraining layer; a light emitting layer; a hole injection restraining layer; an electron transporting layer including an electron transporting material and an inorganic donor; and a cathode; wherein the hole injection restraining layer restrains

injection of holes from the light emitting layer into the electron transporting layer. Kido fails to disclose or suggest the aforesaid aspects of claim 12.

Kido fails to disclose or suggest the claimed electron injection restraining layer. Kido also fails to disclose or suggest the claimed hole injection restraining layer that restrains injection of holes from the light emitting layer into the electron transporting layer. Kido is entirely unrelated to the invention of claim 12 in this respect. Claim 12 cannot possibly be anticipated or otherwise rendered unpatentable over Kido.

Claim 14 requires a hole injection restraining layer that restrains injection of holes from the light emitting layer into the electron transporting layer. Again, Kido fails to disclose or suggest this aspect of claim 14. Kido is entirely unrelated to the invention of claim 14 in this respect.

Claim 18 requires the aforesaid equation that is recited in claim 1. Thus, claim 18 clearly defines over the cited art for the reasons discussed above with respect to claim 1.

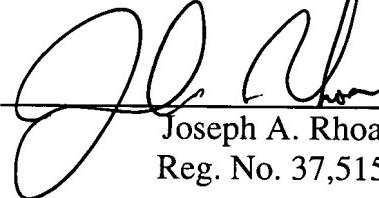
Claim 19 requires that "the hole injection restraining layer and the light emitting layer comprise materials meeting the following formula: $|Ip^{(D)}| \leq |Ip^{(HBL)}|$ and $|Ip^{(EM)}| \leq |Ip^{(HBL)}|$ where $Ip^{(D)}$ represents the ionization potential of a donor, $Ip^{(HBL)}$ represents the ionization potential of a material of the hole injection restraining layer, and $Ip^{(EM)}$ represents the ionization potential of a material of the light emitting layer." No cited reference discloses or suggests this aspect of claim 19. In particular, this formula is not disclosed or suggested by the cited art, whether taken alone or in the alleged combination.

For at least the foregoing reasons, it is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone the undersigned with regard to the same.

Respectfully submitted,

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